



PLR135-T9

Photolink-Fiber Optic Receiver

Descriptions

The PLR135-T9 is packaged with custom optic data link interface, integrated on a proprietary CMOS PDIC process. The unit functions by converting optical signals into electric ones. The unit is operated at 2.4 ~ 5.5 V and the signal output interface is TTL compatible with high performance at low power consumption.

Features

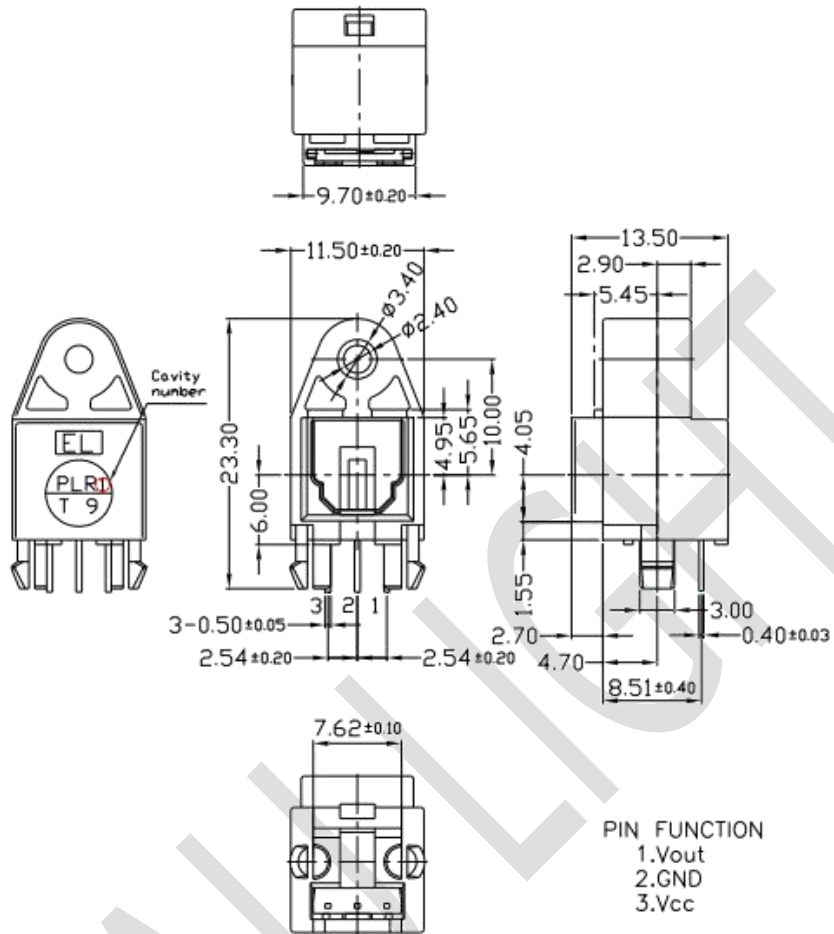
- High PD sensitivity optimized for red light
- Data : NRZ signal
- Low power consumption for extended battery life
- Built-in threshold control for improved noise Margin

Applications

- Digital Optical Data-Link
- Dolby AC-3 Digital Audio Interface



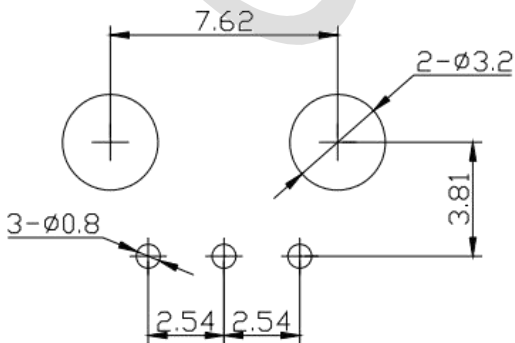
Package Dimension



Notes:

1. All dimensions are in millimeters
2. Tolerances unless dimensions ± 0.3 mm
3. Lead spacing is measured where the lead emerge from the package

PCB Layout for Electrical Circuit



Notice:

1. Unit:mm
2. PCB tolerance:1.6mm



Absolute Maximum Ratings

| Parameter (Ta=25°C) | Symbol | Ratings | Unit |
|-----------------------|--------|-------------|------|
| Supply Voltage | Vcc | -0.5 ~ +5.5 | V |
| Output Voltage | Vout | Vcc+0.3 | V |
| Storage Temperature | Tstg | -40 to 85 | °C |
| Operating Temperature | Topr | -20 to 70 | °C |
| Soldering Temperature | Tsol | 260* | °C |
| Human Body Model ESD | HBM | 2000 | V |
| Machine Model ESD | MM | 100 | V |

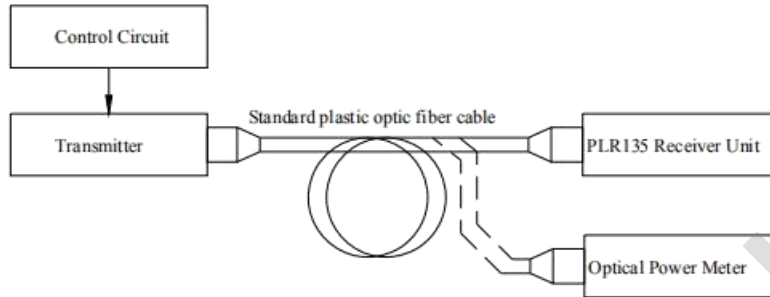
Electro-Optical Characteristics

| Parameter (Ta=25°C) | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|-------------------------------|--------------|------|------|------|------|------------|
| Peak sensitivity wavelength | λ_p | - | 650 | - | nm | - |
| Transmission Distance | d | 0.2 | -- | 5 | m | *1 |
| Maximum receiver power | Pc,max | - | - | -14 | dBm | - |
| Minimum receiver power | Pc,min | -27 | - | - | dBm | - |
| Dissipation current | Icc | - | 4 | 12 | mA | - |
| High level output voltage | VOH | 2.1 | 2.5 | - | V | - |
| Low level output voltage | VOL | - | 0.2 | 0.4 | V | - |
| Rise time | tr | - | 10 | 20 | ns | - |
| Fall time | tf | - | 10 | 20 | ns | - |
| Propagation delay Low to High | tPLH | - | - | 120 | ns | - |
| Propagation delay High to Low | tPHL | - | - | 120 | ns | - |
| Pulse Width Distortion | Δtw | -25 | - | +25 | ns | - |
| Jitter | Δt_j | - | 1 | 15 | ns | Pc=-14dBm |
| | | - | 5 | 20 | ns | Pc=-27dBm |
| Transfer rate | T | 0.1 | - | 16 | Mb/s | NRZ signal |

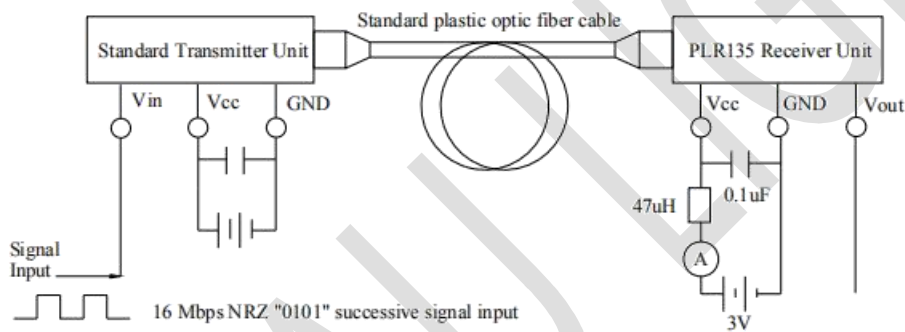


Measuring Method

*Fig.1 Measuring Method of Maximum and Minimum Input Power that Receiver Unit Need

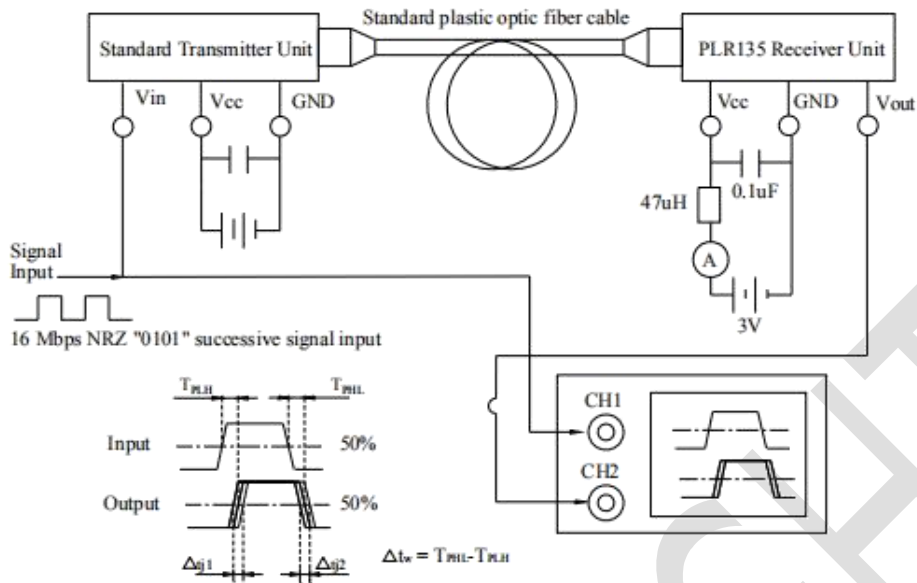


*Fig.2 Measuring Method of Dissipation Current



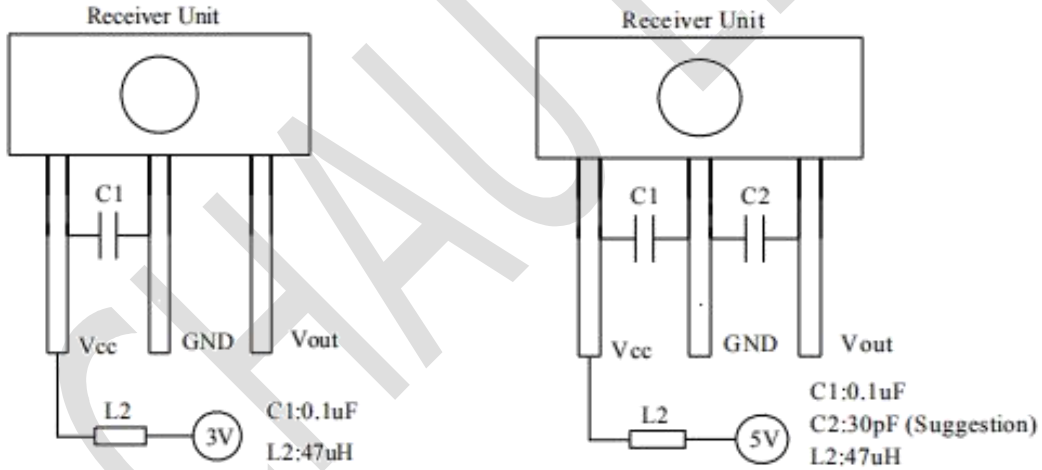


*Fig.3 Measuring Method of Output Voltage, Pulse and Jitter



Application Circuit

- (1) General application circuit for Vcc=3V (2) General application circuit for Vcc=5V

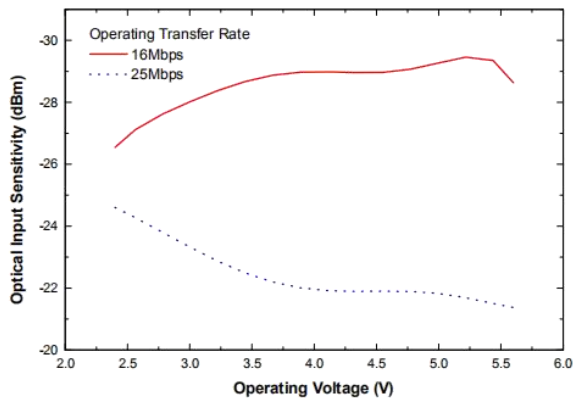


Note: For having good coupling, the C1,C2 capacitor must be placed within 7mm

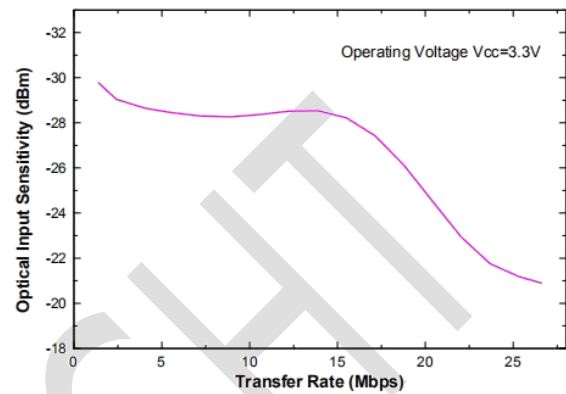


Typical Electrical/Optical/Characteristics Curves

Power supply voltage vs. Minimum receiver power



Transfer rate vs. Minimum receiver power



Note: Before using the PLR135 device, please confirm the minimum sensitivity at different operating voltage and transmission rate.



Packing Quantity Specification

- 1.50PCS/tube, 20Tubes/1Box
2. 4Boxes/Carton

Notes

1. Above specification may be changed without notice. CHAU LIGHT will reserve authority on material change for above specification.
2. When using this product, please observe the absolute maximum ratings and the instruction for using outlined in these specification sheets. CHAU LIGHT assumes no responsibility for any damage resulting from use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
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